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MAIL STOP: APPEAL BRIEF-PATENTS

By: 

Date: April 27, 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

Applic. No. : 09/761,596 Confirmation No.: 5810
Inventor : Klaus Schulz et al.
Filed : January 16, 2001
Title : Housing for Accepting a Component Which
can be Connected to the Housing in a
Pluggable Manner
TC/A.U. : 2841
Examiner : Phuong T. Vu
Customer No. : 24131

Hon. Commissioner for Patents
Alexandria, VA 22313-1450

BRIEF ON APPEAL

S i r :

This is an appeal from the final rejection in the Office action dated October 24, 2003, finally rejecting claims 10-20.

Appellants submit this *Brief on Appeal* in triplicate, including payment in the amount of \$330.00 to cover the fee for filing the *Brief on Appeal*.

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Real Party in Interest:

This application is assigned to Infineon Technologies AG of München, Germany. The assignment will be submitted for recordation upon the termination of this appeal.

Related Appeals and Interferences:

No related appeals or interference proceedings are currently pending which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims:

Claims 10-20 are rejected and are under appeal. Claim 1-9 were cancelled in a Preliminary Amendment filed on April 30, 2001.

Status of Amendments:

No claims were amended after the final Office action. A *Response under 37 CFR § 1.116* was filed on January 9, 2004. The Primary Examiner stated in an *Advisory Action* dated February 11, 2004, that the *Request for Reconsideration* had been considered but did not place the application in condition for allowance.

Summary of the Invention:

As stated in the first paragraph on page 1 of the specification of the instant application, the invention relates to a housing for receiving a component which can be connected to the housing in a pluggable manner, in particular an optoelectronic transceiver.

Appellants explained on page 7 of the specification, line 24, that Figure 1 shows the lower part 21 of a housing according to the invention, which can be connected to an upper part of the housing according to Figure 5 by means of locking clips 21a. Downwardly protruding fastening pins 21b serve for fastening the housing on a printed-circuit board (not represented). The bottom of the lower part 21 of the housing has in the rear region a clearance 8, in which an electrical plug corresponding to the plug 4 of Figure 5 is fastened on the printed-circuit board.

Appellants outlined on page 8 of the specification, line 8, that, in the front region of the lower part 21 there is formed, in turn, a locking clip 6, which serves for the locking of a transceiver plugged into the housing.

It is further outlined on page 8 of the specification, line 12, that the package according to Figures 1, 2 differs from the known package of Figure 5 essentially by the design of the

pressing or ejecting springs. For instance, formed onto the rear edge 21c of the lateral walls 211, 212 of the package are two pressing springs 71, 72 which have a trapezoidal form. This can be seen in particular in the front view of Figure 2. In this case, according to Figure 2, each pressing spring 71, 72 has essentially parallel sides 71a, 71b and 72a, 72b, respectively, of which the longer side is in each case articulated on the lateral wall 211, 212 of the package. The two other sides 71c, 71d and 72c, 72d, respectively, do not run parallel, the upper side 71c, 72c terminating flush with the upper side of the lateral wall 211, 212 of the package and extending in the transverse direction at right angles with respect to the wall.

As set forth on page 9 of the specification, line 2, the width of the pressing springs 71, 72, reducing in the direction of the interior of the housing, is represented in Figure 2 in the case of one pressing spring 72 by way of example by two widths B1, B2.

It is also stated on page 9 of the specification, line 7, that the trapezoidal ejecting springs 71, 72 are integrally formed with the wall 211 of the package and designed as continuations of the wall of the package which are bent around by more than

90° into the interior of the package to produce a spring effect.

Appellants further explained on page 9 of the specification, line 13, that a transceiver is pushed in the direction A into the lower part 21 of the housing or the pushing-in opening into the housing formed by the upper part of the housing and the lower part of the housing. The front edges of the transceiver thereby come into contact with the lateral edges 71a, 72a of the pressing springs 71, 72 and press them away toward the rear, thereby creating a prestressing effect. After locking of the transceiver by means of the locking clip 6, the transceiver is locked in the housing under prestress.

It is described in the last paragraph on page 9 of the specification, line 23, that, when the locking clip 6 is actuated, the pressing springs 71, 72 are relieved and they press the transceiver out of the housing.

Appellants outlined on page 10 of the specification, line 1, that, given the same plate thickness and the same leg height, the restoring force or ejecting force provided by the restoring springs 71, 72 is in this case greater in the region of the wall 21 of the housing than when the rectangular pressing springs are used. This is to do with the fact that

there is an approximately equal bending stress of the spring material in every cross section of the spring on account of the decreasing width of the springs in the direction of the interior of the housing.

It is further outlined on page 10 of the specification, line 11, that the housing and the pressing springs preferably consist of a metallic material, in particular of metal plate. In applications in which an electromagnetic shielding of the component inserted into the housing is not required or is provided by other structures, the use of a non-metallic material is also conceivable however. It is also conceivable, for example, to produce the housing from plastic and to form metallic restoring springs on it.

Appellants also stated on page 10 of the specification, line 20, that an alternative configuration of a pressing spring according to the invention is represented in Figure 3. According to this, the pressing spring 73 is of a triangular design, one corner 73a protruding into the interior of the housing.

It is stated in the last paragraph on page 10 of the specification, line 25, that, in Figure 4, the pressing spring

74 is of a parabolic design, the inflection point 74a lying in the interior of the housing.

Appellants explained in the last paragraph of the specification, starting at line 1 on page 11, that the invention is not restricted in its execution to the exemplary embodiments represented. All that is essential for the invention is that at least one pressing spring which tapers in its width in the direction of the interior of the housing and serves for the resilient reception of a component is provided in the interior of the housing.

References Cited:

U.S. Patent No. 6,517,382 B2 (Flickinger et al.), dated February 11, 2003.

Issues

1. Whether or not claims 10-20 are obvious over Flickinger et al. (US 6,517,382 B2) (hereinafter "Flickinger") under 35 U.S.C. §103.

Grouping of Claims:

Claim 10 is independent. Claims 11-20 depend on claim 10.

The patentability of claims 11-20 are not separately argued.

Therefore, claims 11-20 stand or fall with claim 10.

Arguments:

Claim 10 is not obvious over Flickinger under 35 U.S.C. §103

Appellants stated in the response dated July 31, 2003, that the inventive concept of the present invention of using a "pressing spring having a length and a width that tapers" is explained on page 10, lines 1-9, of the instant application, which states:

Given the same plate thickness and the same leg height, the restoring force or ejecting force provided by the restoring springs 71, 72 is in this case greater in the region of the wall 21 of the housing than when the rectangular pressing springs are used. This is to do with the fact that there is an approximately equal bending stress of the spring material in every cross section of the spring on account of the decreasing width of the springs in the direction of the interior of the housing.

In the *Response to Arguments*, on page 5 of the Office action, the Examiner stated that:

Regarding the rejection based on Flickinger, Applicant states that the reference provides no disclosure or suggestion of using a pressing spring having a length and a width that tapers for obtaining a greater prestress. The contact springs shown in the reference

inherently create a prestress opposite a direction of insertion opposing insertion of said component, which is the only limitation concerning the prestress required by the claim. Furthermore, as noted in the above rejection, **those skilled in the art would recognize that modifying the contact springs so that they are angled or tapered would provide the contact springs with more resiliency for better contact** between the contact springs and their intended contact device for more reliable grounding and shielding. It is not necessary to show that the contact springs were modified for obtainer (sic) a greater prestress as in the present invention. It is only required that a motivation is provided for modifying the contact springs as noted above.

(Emphasis added.)

The Examiner offered no factual support and took no *Official Notice* why a person skilled in the art would recognize that angled or tapered contact springs would provide the contact springs with greater prestress in the context of the present invention.

In order to establish a *prima facie* case of obviousness by combining reference teachings, MPEP § 2143 requires that:

- there must be **some suggestion or motivation** to combine the references in the prior art;
- there must be a **reasonable expectation of success** to be found in the prior art; and
- the combined prior art references must teach or suggest **all** the claim limitations.

It is appellants' position that there is no **suggestion or motivation** in the applied references for a person skilled in

the art, to use a "pressing spring having a length and a width that tapers" for obtaining a greater prestress in the context of the present invention. Accordingly, it is appellants' position that it is only the disclosure of the instant application that teaches such a structure.

Therefore, the Examiner has not satisfied the criteria for establishing a *prima facie* case of obviousness, as required by MPEP § 2143.

Furthermore, Flickinger discloses a housing (21) for pluggably receiving a component (Figs. 2 and 3). Flickinger discloses that resilient fingers (30), which are portions of the lower portion (24) of the housing (21), are bent inwardly extending into the cavity (39) of the housing (21) (column 7, lines 56-59). Contrary to the invention of the instant application, the fingers (30) of Flickinger are of a rectangular shape, whereas the instant application discloses restoring springs 71 and 72 which have a length and a width that tapers as the length extends into the interior of the housing part.

As noted above, according to the invention of the instant application the tapered shape of the springs leads to an increased restoring or ejection force provided by the restoring springs 71 and 72. This is the case because the

bending stress of the spring material is about equal in every cross-section of the spring.

Therefore, the problem to be solved by the present invention, which is to provide a housing of the type described above that allows for the efficient ejection of the pluggably received component from the housing 21, is overcome.

As will be seen from the following arguments, a person of ordinary skill in the art cannot find any teaching or motivation in Flickinger to solve the above-mentioned problem.

Firstly, Flickinger does not disclose the influence of the shape of the finger on the ejection force generated by the finger (30). The specific shape of the fingers (30) and any effect that the shape may have on the ejection force are not disclosed at all.

Secondly, Flickinger discloses in column 8, lines 22-26 that "the resilient fingers 30 resile and cause the module 40 to be at least partially ejected from the receptacle 20. This facilitates removal of the module from the receptacles and disconnection of the module from the receptacle connector 90."

According to page 3, lines 4-10 of the instant application, it is exactly the type of spring disclosed in Flickinger that does not function adequately "to ensure in a dependable way that the transceiver is pressed out of the housing 1 when it is unlocked. In particular, the transceiver is pressed only a small distance out of the housing on account of frictional forces between the housing and the transceiver during unlocking."

Therefore, the invention according to the instant application overcomes exactly those disadvantages of the teaching of Flickinger.

Moreover, Flickinger does not provide a person of ordinary skill in the art any disclosure to solve the above-mentioned problem. Instead, the teaching of Flickinger includes exactly those disadvantages that are overcome by the invention of the instant application.

A person of ordinary skill in the art starting with Flickinger and trying to increase the ejection force might bend the fingers (30) of Flickinger further inwards toward the inner part of the housing, in order to increase the prestress. However, a person of ordinary skill in the art would not alter the shape of the fingers (30) disclosed in Flickinger to


increase the ejection force. Even if the scientific basis for the increase of the ejection force by constructing springs with a tapered shape were known in principle by a person of ordinary skill in the art, Flickinger does not provide any motivation or suggestion for an alteration of the shape of the fingers as disclosed in the instant application.

Accordingly, appellants respectfully believe that any teaching, suggestion, or incentive possibly derived from the prior art is only present with hindsight judgment in view of the instant application. "It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. . . . The reference **itself** must provide some teaching whereby the applicant's combination would have been obvious." In re Gorman, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (emphasis added). Here, no such teaching is present in the cited reference.

Since claim 10 is believed to be allowable, dependent claims 11-20 are believed to be allowable as well.

Based on the above-given arguments, the honorable Board is
therefore respectfully urged to reverse the final rejection of
the Primary Examiner.

Respectfully submitted,

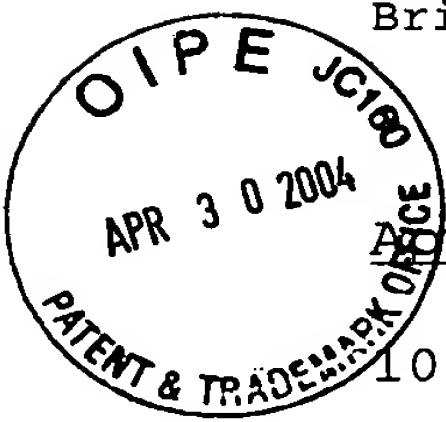


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Appendix - Appealed Claims:

10. A housing for pluggably receiving a component, the housing comprising:

a housing part forming an interior for pluggably receiving a component; and

at least one pressing spring that is deflected when the component is inserted into said interior of said housing part creating a prestress opposite a direction of insertion opposing the insertion of said component, said at least one pressing spring having a length and a width that tapers as said length extends into said interior of said housing part.

11. The package according to claim 10, wherein said pressing spring is designed in a trapezoidal shape.

12. The package according to claim 11, wherein:

said package part has side walls; and

said pressing spring has two parallel sides running parallel to said side walls of said package part.

13. The package according to claim 10, wherein said pressing spring is designed in a shape selected from the group consisting of a triangular shape and a parabolic shape.

14. The package according to claim 10, wherein:

said package part has a first end and a second end remote from said first end;

said first end defines a location for pluggably receiving the component;

said pressing spring is designed as a continuation of said package part at said second end; and

said pressing spring is bent around by more than 90 degrees into said interior of said package part.

15. The package according to claim 14, wherein said continuation is formed integrally with said package part.

16. The package according to claim 10, wherein:

said package part includes an upper part and a lower part designed for connection to a printed-circuit board; and

said pressing spring is articulated on said lower part.

17. The package according to claim 10, wherein:

said package part includes a right-hand wall and a left-hand wall;

said at least one pressing spring includes a first pressing spring articulated on said right-hand wall of said package part and a second pressing spring articulated on said left-hand wall of said package part.

18. The package according to claim 17, wherein:

said right-hand wall includes an upper region and said left-hand wall includes an upper region;

said first pressing spring is articulated in said upper region of said right-hand wall; and

said second pressing spring is articulated in said upper region of said left-hand wall.

19. The package according to claim 18, wherein:

said package part has an upper edge;

said first pressing spring has a leg articulated on said right-hand wall and terminating flush with said upper edge of said package part; and

said second pressing spring has a leg articulated on said left-hand wall and terminating flush with said upper edge of said package part.

20. The package according to claim 10, wherein the component is an optoelectronic transceiver.